

ABSTRACT OF THE INVENTION

Disclosed is a pO157 plasmid-specified polypeptide found in *E. coli* EDL933 and other *E. coli* that binds to and cleaves C1-esterase inhibitor, and antibodies specific for the polypeptide. Also disclosed are methods employing the polypeptide for diagnosing enterohemorrhagic *E. coli* infection, identifying potential inhibitors of its activity, and reducing viscosity of material containing glycosylated polypeptides.